species belong to five families already reported, while the remaining constitute four more new plant families. Thus there are now totally on record 68 species of host plants, coming under 32 dicot families.

Experiments conducted by allowing the seeds of the parasite to germinate on branches of different new host-species indicate clearly that at least some of them are not susceptible to the parasite. While some monocots have also been tried, none of the seeds grew to attain maturity. Although invariably all the seeds germinate within a fortnight to produce small green leaves and a massive haustorium, the fate of the parasite is decided only when the haustorium penetrates the host tissue. One of the most important factors determining the further growth of the parasite is the osmotic pressure-relationship between the host and the parasite. The study of the osmotic concentration of the host and the parasite is well under way, and this would throw much light on the host-parasite relationship.

The following are the new experimental host species for *L. longiflorus: Tamarix gallica* L. (Tamaricaceae), *Cassia glauca* Lamk. (Caesalpinaceae), *Terminalia catappa* L. (Combretaceae), *Ixora parviflora* Vahl (Rubiaceae), *Mussaenda frondosa* L. (Rubiaceae), *Vernonia elegens* Gardn. (Compositae), *Tabebuia pentaphylla* Hemsl. (Bignoniaceae), *Tectona grandis* L. (Verbenaceae), *Bougainvillaea spectabilis* Willd. (Nyctaginaceae), and *Grevillea robusta* A. Cunn. (Proteaceae).

It may be concluded from the foregoing observations that nowhere in the study of angiospermic parasites has there been such a wide range of host plants affected by a single parasitic species and that there is a possibility of this parasite attacking many more species of host plants.

BOTANY DEPARTMENT, R. SAMPATHKUMAR
ANNAMALAI UNIVERSITY,
ANNAMALAINAGAR,
May 31, 1969.

[See Note No. 23 which gives the total number of hosts known so far for this species—EDS.]

30. ON THE PRODUCTION OF ADVENTITIOUS ROOTS FROM THE EXCISED PETIOLES OF SOME ANGIOSPERMS

(*With a photograph*)

Previous observations indicate that the production of foliar roots is common in Acanthaceae and Labiatae. The present investigation includes 33 new species of plants, belonging to 13 angiospermic families, as listed below:—

Portulaca grandiflora Lindl. (Fig. 1), *Cissus quadrangularis* Linn.

(Fig. 2), *Cayratia mollissima* Gagnep. (Fig. 3), *Eclipta alba* Hassk. (Fig. 4), *Chrysanthemum indicum* Linn. (Fig. 5), *Notonia grandiflora* DC., *Ageratum conyzoides* Linn. (Fig. 6), *Elephantopus scaber* Linn. (Fig. 7), *Jasminum sambac* Ait. (Fig. 8), *J. flexile* Vahl (Fig. 9), *Per-*

gularia minor Andr. (Fig. 10), *Ipomoea cairica* (Linn.) Sweet, *Ipomoea batatas* Poir. (Fig. 11 & 11A), *I. sepiaria* Koen., *I. reptans* Poir. (Fig. 12 & 12A), *I. obscura* Ker-Gawl., *I. pes-tigridis* Linn. (Fig 13), *I. pes-caprae* Sweet., *Evolvulus nummalarius* Linn. *Moniera cuneifolia* Michx., *Adhatoda vasica* Nees. (Fig. 14), *Barleria prionitis* Linn. (Fig. 15), *B. caprae* Sweet., *Evolvulus nummularius* Linn. *Moniera cuneifolia* Michx., *Echolium linneanum* Kurz (Fig. 18), *Asteracantha longifolia* (L.) Nees (Fig. 19)., *Lantana aculeata* Linn. (Fig. 20), *Leucas aspera* Spr. (Fig. 21), *Mirabilis jalapa* Linn. (Fig. 22), *Alternanthera sessilis* (L.) DC. (Fig. 23), *Telanthera ficoidea* Moq. (Fig. 24), *Gomphrena globosa* Linn. (Fig. 25), and *Sansviera roxburghiana* Schult. f.

While in majority of cases, the cut ends of the petioles were planted in moist soil, a few leaves were also left in glass containers with tap water. Prior to the production of adventitious roots, a massive callus (Fig. 11A) at the cut-ends of the petioles is formed in many cases, while in others no such tissue appears. In a few cases, aerial shoots (Fig. 12A, 16, & 17A) also appear from the callus so differentiated, and these shoots may be successfully grown into mature individuals. In the case of *Cayratia mollissima* Gagnep. (Fig. 3), root tubers are also produced.

BOTANY DEPARTMENT,
ANNAMALAI UNIVERSITY,
ANNAMALAINAGAR,
July 11, 1968.

R. SAMPATHKUMAR